

Independent Claims 1, 9 and 15 and Claims Dependent Thereon

These claims stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kohler. Applicant respectfully traverses the rejection for reasons set forth after discussion of the teachings of this reference.

Kohler, U.S. Patent No. 5,115,236

Kohler is a "Remote Control System Using a Wake Up Signal." The Kohler system discloses a "remote control (RC) system" comprising an "RC transmitter" for "deliver[ing] a message in the form of a series of pulses," where the transmission of the pulses is conducted by an "infrared modulation circuit." *Column 1, lines 15-27*. The Kohler system further includes an "RC receiver" for detecting, decoding and acting on said transmitted (and received) pulses. *Column 1, lines 36-43*.

Kohler discloses (as the novelty of the invention) an "RC transmitter" for "transmitting messages which are constituted by a series of pulses," where "the beginning of each message is marked by a wake-up pulse." *Column 2, lines 35-40*. The "receiver," then, includes "a wake-up pulse detection circuit which generates an auxiliary wake up pulse in response to each received wake up pulse." The disclosed receiver in the Kohler system further comprises "switching means" for applying "power supply energy" to a "signal processing circuit after having received [said] auxiliary wake-up pulse and discontinuing this supply if no auxiliary wake-up pulse has been received for a pre-determined period." *Column 2, lines 41-54*. This "wake-up pulse" is disclosed by Kohler as being

distinguishable from the other pulses "by its energy content;" this distinction is depicted pictorially in Figure 1A, wherein the "wake-up pulse" (labeled WU) is a pulse having a much greater amplitude (i.e. power) than the other pulses comprising the message. The distinction between the Kohler "wake-up pulse" and the other pulses is clearly described as being "preferably transmitted with a light intensity (amplitude) which is larger than that with which other pulses defining the message are transmitted." *Column 5, lines 25-29.*

The "RC receiver" is disclosed to remain in a low-power-consuming "rest state" until an "RC transmitter transmits a wake-up pulse," the receipt of which by the "RC receiver," and due to "the high input impedance of circuit 1," will "cause [a] current, which will start flowing through the photodiode 2 as a result of the received wake-up pulse." *Column 4, lines 27-50.* This means that the Kohler circuit is designed such that the incident power from the wake-up pulse will actually create a current in the photodiode circuitry. Furthermore, Kohler states that once the current created by the receipt of the wake-up pulse is transmitted "to the wake-up input 42 of the control circuit 4," then "the pulses following the wake-up pulse are completely applied [to IC circuit 1]." *Column 4, lines 52-60.*

In summary, then, the Kohler system discloses a receiver that remains in a low-power-demand state until such time as a wake-up pulse of adequate amplitude is received by the receiver. The unique aspect of the Kohler wake-up pulse is in its amplitude, and in fact the amplitude creates the actual current flow in the receiver circuitry that "wakes up" the receiver to its full-power-demand state.

Patentability of Independent Claims 1, 9 and 15

Applicant's Independent Claim 1 recites: "A device for reducing power consumption in infrared-enabled appliances having power supply means and transceiver system means forming a circuit including switch means, comprising: a discovery signal receiver and power actuator module, said module configured to recognize incident Ir discovery signals and responsively activate said switch means." Applicant has attached pertinent excerpts of a document originated by the Infrared Data Association entitled "Serial Infrared Link Access Protocol (IrLAP)," in fact, in his Office Action, the Examiner refers to other portions of the same document. As can be seen throughout the excerpts provided herewith, the term "Discovery" signal, as it relates to Infrared communications, refers to only one single thing. The Infrared Discovery signal adheres to the same amplitude specifications as any other Infrared signal or pulse – what is unique about the Ir Discovery signal is its content. In particular, and as described in the document excerpts attached hereto (see pages 27-30 and 47-54), the Ir Discovery signal contains content that commences a "hand-shaking" between devices in preparation for establishing further normal communications between devices. Figure 6.8.4 depicts the subsequent actions upon transmission and receipt of an Ir Discovery signal – in particular, the devices are assigned nodes for the purpose of distinguishing the signals from each separate device.

In fact, the Kohler "wake-up" signal is unworkable as applied to Applicant's invention for at least 3 reasons: (1) the Kohler receivers, in being sensitive to amplitude, will only function when paired with a specialized receiver, whereas Applicant's system will work with all Ir devices compliant with IrDA specifications; (2) the Kohler system is dependent upon transmission range – it is possible that the range between the transmitter and

the receiver will be adequate to sustain communications, but will attenuate the signal sufficiently to prevent the "wake-up" signal from awakening the receiver; (3) while the Kohler device reduces the power needed by the receiver, it increases the power demands of the transmitter in creating the high-amplitude pulse.

As such, it is apparent that the Kohler system does not anticipate Applicant's novel system, since the Kohler system is sensitive to a high-amplitude pulse (to which Applicant's system is insensitive), whereas Applicant's system is sensitive to the specific digital content of an incident signal (to which Kohler's receiver is insensitive).

Since the entire Infrared industry understands that a "discovery" signal refers to a particular type of Ir signal, and more specifically, to its digital content, Applicant refrained from providing additional detail in the application as originally filed; this additional discussion is provided here simply to clarify any confusion that the Examiner might be experiencing. It is well settled that the inventor may be his own lexicographer.¹ This rule is universally followed, and furthermore, a word will be given its accustomed meaning unless it appears that the inventor used it differently.² In the instant situation, the Applicant, in referring to a "discovery signal" clearly intended to refer to the same signal called as such by the IrDA, and used the term in the same manner as does the IrDA. Since Applicant did not refer to any signal having a high-amplitude pulse contained within an Infrared signal, it would be improper for the Examiner to conclude that the "wake-up" signal of Kohler is the same as a "discovery" signal. Consequently, nothing in Kohler discloses, hints or suggests the novel and nonobvious structure of Applicant's Claim 1, and this Claim should be allowed. Furthermore, since Independent Claims 9 and 15 recite Ir receiving structure that

¹ W.L. Gore & Assocs. V. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303, 316 (Fed. Cir. 1983), cert. Denied, 469 U.S. 851 (1984).

changes power states responsive to their receipt of a discovery signal, these claims, too are novel and nonobvious, and they should also be allowed.

Dependent Claims 2-8, 10-14 and 16-20

In that these claims depend from novel and nonobvious Independent Claims 1, 9 and 15, these claims necessarily must be novel and nonobvious over the prior art, and they too should be allowed. 35 U.S.C. §102

Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully requests that the application be reconsidered, the claims be allowed, and the case passed to issue.

Respectfully submitted,

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² ZMI Corp. V. Cardiac Resuscitator Corp., 844 F.2d 1576, 1580, 6 USPQ 2d 1557, 1560 (Fed. Cir. 1988).